



# Seattle Fire Department Fire Prevention Report

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## *Community Fire Safety Advocate Project Evaluation*

***Initial Evaluation on the Effectiveness of Teaching Fire Safety Skills to Non-English Language Learners Within the Parameters of a Fire Department Multicultural Outreach Project.***

### *Executive Summary*

For over 50 years, the Seattle Fire Department has provided high quality community fire safety and prevention education. Emphasis is on community risk-reduction activities, with particular attention to those who are at greatest risk of experiencing a fire. Since 2010, the primary means of reaching the city's large immigrant/refugee community has been through the Department's Community Fire Safety Advocate (CFSA) Program. Specially trained native language speakers provide culturally relevant fire safety education within Seattle's diverse neighborhoods. As of early 2013, ten language groups are receiving fire prevention services in this accessible format.



Evaluating the effectiveness of a diversely delivered, multi-language, community-based fire prevention program is a challenge. Reporting on fire occurrence is not a viable measure of effectiveness, due to the high number of variables present, the low number of fires that occur per population, and the lack of statistical relevance that can be determined. Our evaluation efforts focused, therefore, on the following aspects: 1) closely evaluating the fire safety skills and knowledge of each advocate, both during their training and additionally over time, 2) conducting targeted assessments on program participants' knowledge gain and skills development for two specific fire safety behaviors and 3) gathering anecdotal information as it became available.



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The evidence collected from the above sources affirmed the worth and effectiveness of this fire safety program model for multicultural communities. Detailed measurement of two brief fire safety instructional activities, putting out a small kitchen pan fire and sequencing the steps of a home fire evacuation plan, showed significant short-term knowledge gain within a diverse adult participant group. Additionally, actual behavior change was observed related to extinguishing a pan fire, both from direct observation of the outreach activity itself and from verbally-related anecdotal accounts of home kitchen fires being correctly extinguished after participating in the activity. While it is unknown whether this knowledge gain has any persistence over time, the existence of the anecdotal accounts does provide some encouragement that even brief exposure to an educational activity can have positive results.

### *Background*

The Seattle Fire Department's Community Fire Safety Advocate program was developed in response to a fatality house fire which occurred in June 2010. Four children and a young woman were the victims of this fire, which was Seattle's deadliest in more than 30 years. The family members were all part of Seattle's East African community.

It was clear to the Fire Department that more outreach and education was needed to better reach immigrant and refugee communities with important life-saving messages. Shortly after the fire, Seattle Fire Department leadership met with East African community leaders to develop a strategy to successfully conduct fire safety education within the community. Interest in directly training native language speakers to conduct the education was highlighted. The resulting Community Fire Safety Advocate (CFSA) program became the primary Fire Department educational vehicle for reaching Seattle's immigrant/refugee residents with fire safety information.

Selected native language speakers receive training in fire safety behaviors and prevention, as well as orientation to the Fire Department, its services and members. With support from fire prevention staff, they conduct a variety of outreach activities, from tabling at fairs and fire station open houses to giving presentations and leading small "kitchen-table" discussions. Over the past two and a half years, the advocates have provided service in 10 different languages to 7,128 members of Seattle's immigrant and refugee communities. Detailed information about program activities and procedures may be viewed by clicking [here](#).



## Evaluation methods

In an effort to evaluate the effectiveness of the Community Fire Safety Advocate program, assessments are conducted at several points in the program.

1. Each advocate must pass a skills-based competency test before receiving their certification to conduct outreach activities and being awarded a contract.
2. Each advocate provides subjective feedback at the conclusion of their training, and at least quarterly after that.
3. In-depth evaluation was conducted during 2012 on two of the activities performed by advocates at community outreach events. This paper describes this last evaluation process.
4. Anecdotal reports from program participants on real life situations occurring after their interaction with a Community Fire Safety Advocate.

### Evaluation of Tabling Activities

Between February and August 2012, Public Education staff conducted an evaluation of two tabling activities performed by Community Fire Safety Advocates at public outreach events. The setting for these activities is primarily large-scale, public events such as health fairs, neighborhood festivals and community center events with an average attendance of 50-200 immigrant/refugee attendees. The goal of the evaluation was to determine the effectiveness of the advocate-taught tabling activities at producing both knowledge gain and increased fire safety behavior in participants.

#### Tabling Activity: Responding to a Pan Fire

*Goal of the Activity:* Participants will have knowledge of the correct (safe) action to take if a pan catches on fire on the stove.

*Objective:* Participants will be able to demonstrate the proper action to take if a cooking pan catches on fire.

*Activity Description:* Advocates ask a participant if they want to learn what to do if there is a fire on the stove. Participants are directed to the table and are shown a picture of a pan on fire. The advocate then asks the person what they would do if they discovered a pan on fire at home, similar to the picture. The participant answers verbally and their answer is scored by an observer.



Those participants who answer that they would put a lid on the fire are congratulated for their correct, and safe, response. If the participant answers incorrectly—or appears confused or asks for help—they are then





verbally coached by the advocate on what the correct/safe response would be. This involves showing them a picture of a lid being slid onto the burning pot in the first picture as well as a live demonstration by the advocate, using props, of how to safely slide a lid onto a pan (imaginarily on fire).

The participant is then asked, using the props provided, to demonstrate what they would do if they found a pan on fire in their home. They are scored as to how acceptably they are able to demonstrate the correct action. If they are unsuccessful in the action, the advocate again attempts to teach them the correct behavior.

#### **Tabling Activity: Evacuation Sequence Card Sort**

*Goal of the Activity:* Participants will have knowledge of the correct (safe) action to take if a fire should occur in their home.

*Objective:* Participants will be able to place a number of related storyboard pictures in an order that indicates the correct (safe) action to take in response to the fire in the pictures.

*Activity Description:* Advocates ask a participant if they want to learn what to do if there is a fire in their home. Participants are directed to the table and are handed a stack of storyboard pictures. They are instructed to arrange the pictures in the order that they think shows the safe action to take if there is a fire in their home. No assistance is provided by the advocate.

Once the participant has completed the task, they are scored on whether they arranged the pictures correctly or not. If the participant arranged the pictures correctly, they are congratulated on their correct answer.

If the participant arranged the pictures incorrectly—or appears confused or asks for help— they are then verbally coached by the advocate on what the correct/safe response would be during a fire.

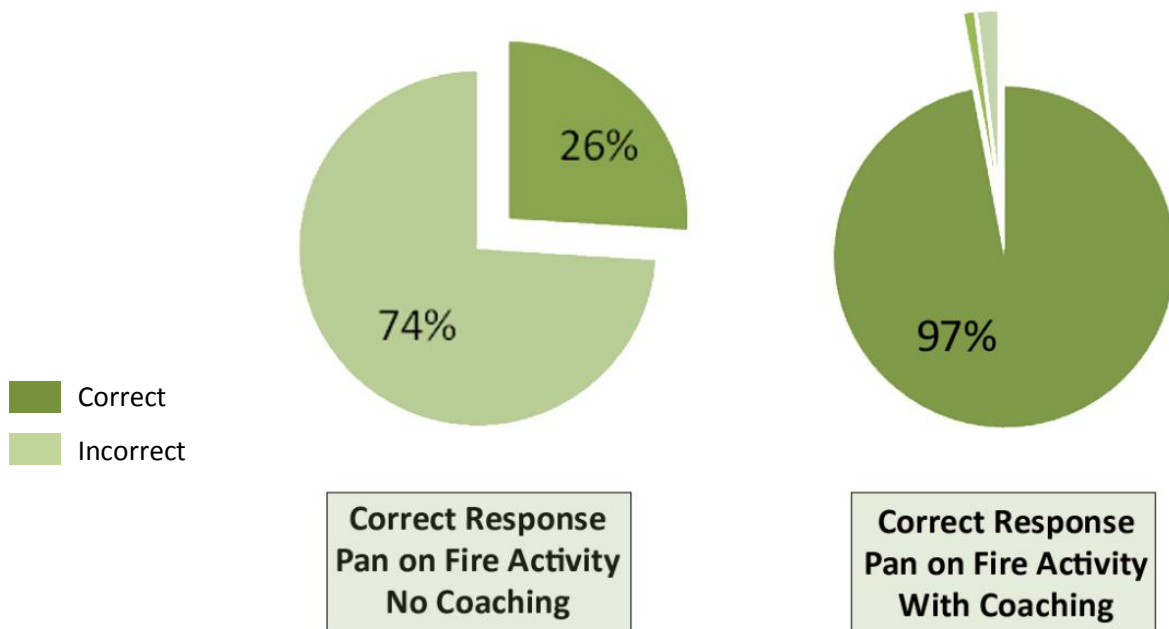
The participant is then asked to try ordering the pictures again. They are scored as to whether they arrange the pictures correctly or not. If they are unsuccessful in the action, the advocate again attempts to explain the correct behavior and answer any questions they have on the topic.



## Results

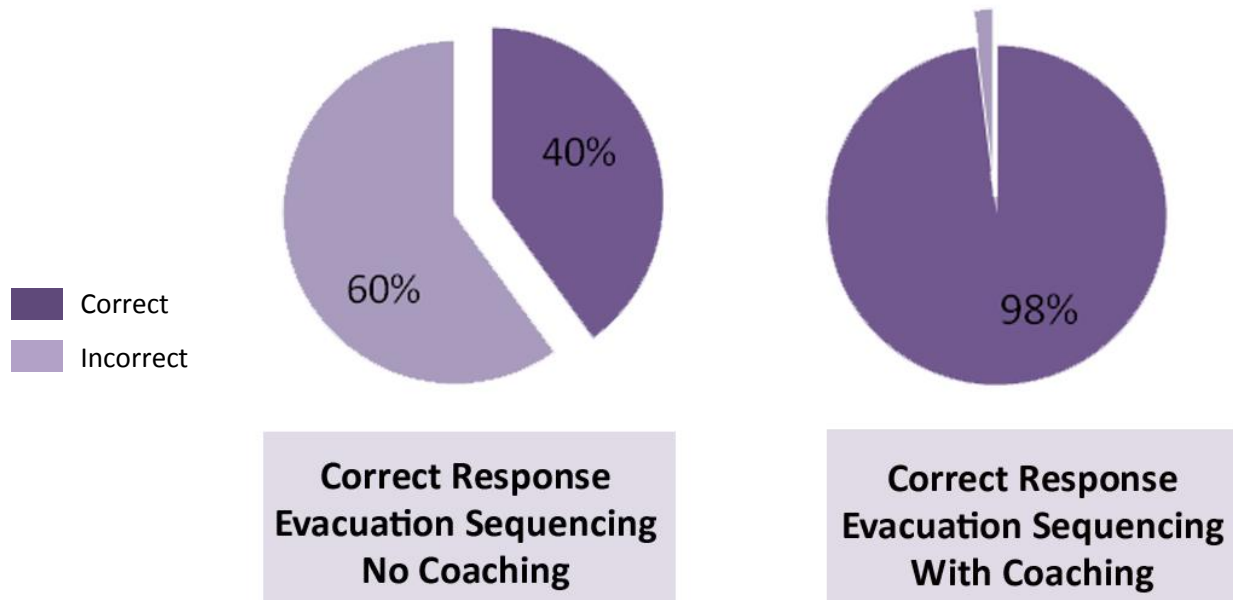
### Tabling Activity: Responding to a Pan Fire

Exercise Results, first try	%	number
The person correctly said to cover with a lid or pan	26.00	85
The person gave an incorrect answer	74.00	242
<i>Total Tries</i>	<i>100.00</i>	<i>327</i>
Exercise Results, second try, after coaching	%	number
The person correctly said or demonstrated the act of covering a pan with a lid.	96	231
The person gave an incorrect answer	1	3
The person did not complete the exercise	3	8
<i>Total Tries</i>	<i>100.00</i>	<i>242</i>
Exercise Results, overall after 2 attempts (with coaching provided if first attempt failed)	%	number
The person correctly said or demonstrated the act of covering a pan with a lid.	97	316
The person gave an incorrect answer	1	3
The person did not complete the exercise	2	8
<i>Total Participating</i>	<i>100.00</i>	<i>327</i>



**Tabling Activity: Evacuation Sequence Card Sort**

<b>Exercise Results, first try</b>	<b>%</b>	<b>number</b>
The person correctly placed the cards in order	40.00	86
The person incorrectly placed the cards in order	60.00	129
<i>Total Tries</i>	<i>100.00</i>	<i>215</i>
<b>Exercise Results, second try, after coaching</b>	<b>%</b>	<b>number</b>
The person correctly placed the cards in order	98	126
The person incorrectly placed the cards in order	1	2
The person did not complete the exercise	1	1
<i>Total Tries</i>	<i>100.00</i>	<i>129</i>
<b>Exercise Results, overall after 2 attempts (with coaching provided if first attempt failed)</b>	<b>%</b>	<b>number</b>
The person correctly placed the cards in order	98	212
The person incorrectly placed the cards in order	1	2
The person did not complete the exercise	1	1
<i>Total Participating</i>	<i>100.00</i>	<i>215</i>



Data gathered on the two tabling activities indicated that a substantial knowledge gain was achieved by participants in both activities. Of those participating in the *Pan Fire* activity, only 26% were able to indicate the correct/safe action to take prior to coaching by a Community Fire Safety Advocate. After coaching, 97% were able to not only describe, but also demonstrate, the correct/safe action to take to put out a pan fire on the stove.

For participants in the *Evacuation Sequencing* activity, 40% of those who initially engaged in the activity were able to correctly sequence the picture cards to indicate their response to a fire emergency in their home. That number rose to 98% when coaching was provided by an advocate in their native language.

### ***Anecdotal Evaluation***

Data was gathered on two anecdotal incidents during the evaluation period, both involving kitchen fires. The first concerned a Somali woman who had participated in a home fire safety presentation conducted by a female Somali advocate. She contacted the advocate several months afterwards to relay a personal incident and to thank her for the fire safety education. Several weeks after attending the presentation, the woman had experienced a fire on her stove. She stated that she remembered what she had learned from the advocate and that instead of panicking or throwing water on the fire, as she believes she would have done previously, she grabbed a pan lid and slid it on the flaming pot, putting out the fire immediately. The woman indicated that she felt the guidance she had received on dealing with a stove fire had saved her home and she wanted to thank both the advocate and the Fire Department for helping her.

The second incident related to Fire Department staff involved a Cambodian-speaking woman who participated in a tabling event facilitated by a Cambodian-speaking advocate in the summer of 2012. She relayed that some time after the event she heard a neighbor scream that she had a fire. She ran over to her neighbors and saw a fire on her stove top. She related that she remembered the information she had learned from the Fire Department advocate and grabbed a lid for the pan and was able to put the fire out by covering it.



### ***Discussion of the results***

The conclusion we drew from the results of our two tabling activities was that even a short one-on-one interaction between a trained, native language speaking outreach worker and an untrained adult member of their language group resulted in an increase in both fire safety knowledge and behavior for the untrained individual. Whether this increase is short or long term was not determined, however two anecdotal incidents indicate that the effect may last for at least some weeks or months after exposure to the brief activity.



Conclusive results are extremely difficult to achieve within the framework of a linguistically diverse educational interaction occurring in a busy public setting. Factors such as language translation, cultural differences, environmental factors, age/gender differences and interactive group settings, while lending interest and richness to the activity, also complicate attempts to assess the long-term effectiveness of the activity. This is especially true given the resources available to a busy team of three front line staff attempting to provide fire prevention education to a resident population of over 600,000, as well as to business and commercial clients, within the city of Seattle.

However, given the variety of evaluation measures taken: advocate skills tests, quarterly informal evaluations of the advocates, targeted assessment of teaching activities and anecdotal results, we feel that evidence has been collected that affirms the worth and effectiveness of continuing this ground-breaking fire safety program for multicultural communities.

### *References*

“Community Fire Safety Advocate Pilot Project”, *Fire Prevention Report*, Seattle Fire Department, January 2011.

“Community Fire Safety Advocates: A model for educating multicultural communities”, PowerPoint, Seattle Fire Department, December 2012.

